3.8 Shigellosis

Summary

Number of notifications: 57
Crude incidence rate: 1.2/100,000

Fifty-seven cases of shigellosis were notified in Ireland in 2014, corresponding to a crude incidence rate (CIR) of 1.2 per 100,000. This represents an increase of 16% compared to 2013. Of 43 cases where hospitalisation status was recorded, 11 (26%) were reported as hospital in-patients. Of the 57 cases, 54 were laboratory confirmed.

During 2014, there was an excess of male cases compared to females, with a male to female ratio of 2.3: 1.0. This trend has been observed since 2009 with the exception of 2013 where more females were notified (figure 1). During 2014, cases ranged in age from 10 months to 72 years (median age=30 years). The male to female ratio was highest in the age groups 25-34 years (3.5:1.0), 35-44 years (6.0:1.0) and 45-54 years (2.0:1.0). Males in the 35-54 years age group were mostly travel associated whereas males in the 25-34 year age group were mostly indigenous or travel history unknown (table 1).

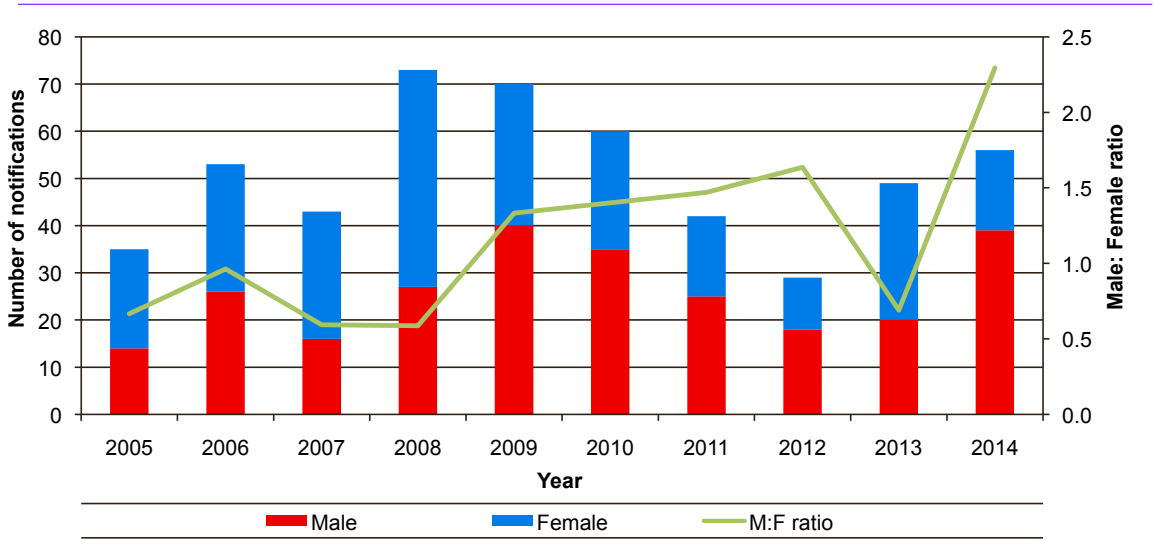

Figure 1: Annual number of notifications shigellosis by sex and year (Data source: CIDR)

Table 1: Number of notifications shigellosis by travel association, age group and sex, 2014 (Data source: CIDR)

2014	Indigenous		Travel associated		Travel history unk			Total notifications				
	F	M	F	M	F	M	Sex unk	F	M	Sex unk	Total	M: F ratio
0-4 yrs	0	0	2	2	1	2	0	3	4	0	**7**	*1.3*
5-14 yrs	0	0	0	2	3	1	0	3	3	0	**6**	*1.0*
15-24 yrs	0	0	2	2	0	1	0	2	3	0	**5**	*1.5*
25-34 yrs	0	5	4	0	0	9	1	4	14	1	**19**	*3.5*
35-44 yrs	0	1	1	4	0	1	0	1	6	0	**7**	*6.0*
45-54 yrs	1	1	1	4	1	1	0	3	6	0	**9**	*2.0*
55-64 yrs	1	0	0	0	0	1	0	1	1	0	**2**	*1.0*
65+ yrs	0	1	0	1	0	0	0	0	2	0	**2**	*0.0*
Total	**2**	**8**	**10**	**15**	**5**	**16**	**1**	**17**	**39**	**1**	**57**	*2.3*
M:F ratio	*4.0: 1.0*		*1.5: 1.0*		*3.2: 1.0*			*2.3: 1.0*				

Information on travel history is very valuable when reviewing surveillance data for possible indigenous clusters. Data on country of infection was available for 58% of shigellosis notifications this year, a decrease compared to 88% in 2013. Twenty-five cases were reported as being associated with foreign travel in 2014. The countries of infection reported were India (n=6), Egypt (5), two each associated with Kenya and Morocco, and one case each associated each with travel to Afghanistan, Croatia, Haiti, Lebanon, Somalia, Spain, Nigeria, Pakistan, Poland and UK. Ten cases were reported as being acquired in Ireland, while no country of infection information was available for 22 cases.

S. sonnei was the most common species reported (n=32), followed by *S. flexneri* (n=19). Species was not reported for the remaining three confirmed cases. When analysed by travel association, *S. flexneri* was equally common among indigenous cases (22.2%) as travel associated cases (20.8%) but more common in cases without travel history reported (50.0%). *S. sonnei* was slightly more common among indigenous cases (77.8%) than travel associated cases (62.5%).

There were four shigellosis outbreaks notified in 2014, resulting in 11 cases of illness. All four outbreaks were family outbreaks, of S. *sonnei*. Three outbreaks occurred in private houses while one was in an extended family associated with travel to Egypt.The mode of transmission was reported as person-to-person for two while the transmission was unknown for the remaining two.

More detailed typing of *Shigella* isolates can provide useful information on the relatedness of strains which can be used by public health personnel to outrule/provide evidence for links between cases during investigations of case clusters. The National *Salmonella*, *Shigella* and *Listeria* Reference Laboratory (NSSLRL) provide laboratory services for speciation, serotyping, antimicrobial resistance profiling, and where appropriate, Pulsed Field Gel Electrophoresis (PFGE) of *Shigella* isolates. The species/serotype and antimicrobial resistance patterns of these cases are reported in Table 2.

During 2014 the NSSLRL reported an increase in

Table 2: Species/serotypes and AMR profiles of Shigella isolates referred to NSSLRL in 2014

Serotype	Number by serotype	AMR profile	Number by serotype and AMR profile
Shigella flexneri 1b	4	ACST	1
Shigella flexneri 1b		ACSTTm	1
Shigella flexneri 1b		ASSuTTmNaCtx	1
Shigella flexneri 1b		STTm	1
Shigella flexneri 2a	4	ACSSuTTm	2
Shigella flexneri 2a		ACSSuTTmAzt	1
Shigella flexneri 2a		ACSSuTTmNaCp	1
Shigella flexneri 2b	1	SuTTm	1
Shigella flexneri 3a	2	ACSTAzt	1
Shigella flexneri 3a		none	1
Shigella flexneri 4	2	A Azt	1
Shigella flexneri 4a		ACSSuTTm	1
Shigella flexneri X variant	4	ASSuTTmAzt	2
Shigella flexneri X variant		ASuTTmAzt	1
Shigella flexneri X variant		T	1
Shigella sonnei	27	ASSuTTm	1
Shigella sonnei		ASuTm	1
Shigella sonnei		SSuTm	1
Shigella sonnei		SSuTTm	15
Shigella sonnei		SSuTTmNa	3
Shigella sonnei		SSuTTmNaCp	5
Shigella sonnei		TmNaCp	1
Total	44	Total	44

Table 3: Notified shigellosis outbreaks 2014 (Data source: CIDR)

HSE-area	Outbreak type	Location	Transmission mode	Number ill	Serotype
HSE-W	Family	Private house	Person-to-person	4	*S. sonnei*
HSE-W	Family	Private house	Person-to-person	2	*S. sonnei*
HSE-NE	Family	Travel-related in extended family	Unknown	3	*S. sonnei*
HSE-E	Family I	Private house	Unknown	2	*S. sonnei*

specimen referral from regional laboratories. This is likely a result of the increased sensitivity of direct molecular detection methods which were recently introduced for faecal pathogen screening by regional laboratories. [1] An increase in ciprofloxacin resistance among *S. sonnei* isolates has been identified by NSSLRL since 2010; this appears to have a significant association with exposure in India.[1] Further details of *Shigella* strain characterisation performed at NSSLRL can be found in the NSSLRL Annual Report.[1]

References

1. National Salmonella Reference Laboratory of Ireland, Annual Report for 2014. Available at: http://www.nuigalway.ie/research/salmonella_lab/reports.html